

claims

1. Light curtain comprising two elongated assemblies defining between them and lengthwise an area to be monitored, and comprising at least one light source, at least 5 one optical receiver, and processing means able to process the signals received from the light source by the receiver, in order to output an intrusion signal,

characterised by the fact that each assembly (P1, P2) comprises, together with the other assembly

10 - a surface (11) of alternating light areas (13) and dark areas (12) distributed along the length of the assembly to form a grid,
- a linear (or matrix) optical receiver (R) with opto-sensitive points that are located in succession along the length of the assembly, and an optic (14) associated to the linear receiver (R) and adapted to pick up the image of at least part of the length of the
15 opposite grid
- the linear receiver (R) picks up the image of the part of the opposite grid and sends a respective grid image signal,
- the processing means (23-26) of the two assemblies (P1, P2) process the grid image signals coming from their linear receivers to output the intrusion signal (S).

20

2. Light curtain in accordance with claim 1, characterised by the fact that each assembly (P1, P2) has near one end a single linear receiver (23, 26), whose associated optic (14) covers the whole length of the opposite assembly (P2, P1), the
25 optical receivers (RB2, RH1) of both assemblies being located at the respectively opposite ends of the assemblies.

3. Light curtain in accordance with claim 1, characterised by the fact that detection is 30 cyclical, each assembly having an internal light source (E1, E2) activated periodically and synchronous with the activation of a linear receiver (R) in the opposite assembly.

4. Light curtain in accordance with claim 1, characterised by the fact that each assembly (P1, P2) has two linear receivers (RH1, RB1; RH2, RB2) located near its two ends, and the optic (14) associated to each receiver is adapted to cover the whole length of the opposite assembly (P2, P1), the processing means (21,22) including 5 redundant safety processing means to process the image signals of the monitored area.

5. Light curtain in accordance with claim 4, characterised by the fact that the 10 processing means (21,23,24) of one of the two assemblies (P1) monitor the processing means (22,25,26) of the other assembly, and the processing means of the two assemblies are connected by a link (28; 30) ensuring forwarding of a diagnostic signal (D) from the monitored assembly to the monitoring assembly, and forwarding of a synchronisation signal (SYNC) from the light source (E) of an assembly to synchronize 15 the optical receiver (R) of the other assembly.

6. Light curtain in accordance with claim 5, characterised by the fact that the link (28) is optical.

20

7. Light curtain in accordance with claim 5, characterised by the fact that the link (30) is cabled.